Professor Dr. M.V. Kartikeyan

Department of Electronics & Communication Engineering
Millimeter/THz Wave Laboratory
Indian Institute of Technology Roorkee, Roorkee 247 667, Uttarakhand, India
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International Research Awards for Professional Recognition

Recipient of the ***Alexander von Humboldt Fellowship*** (from July 2001 to June 2003, June/July 2011, June/July 2012).

Recipient of the ***Hildegard–Maier Research Fellowship for Electrical Sciences by the Alexander von Humboldt Foundation*** (from December 1998 to January 2000).

Academic and R&D Experience

Academics:–

* Worked as the Head, Department of Electronics & Communication Engineering, Indian Institute of Technology, Roorkee (IITR), India (May 2013-February 2016).

* Worked as the Head, Institute Computer Center, Indian Institute of Technology, Roorkee (IITR), India (January 2012-April 2014)

* Working as a Full–Professor since September 2009 in the Department of Electronics and Computer Engineering, Indian institute of Technology, Roorkee (IITR), India.

* Worked as an Associate Professor from July 2003 to August 2009 at IITR.

* Number of Theses Guidance:–

  Ph.D. 9 completed and 8 in progress

  M.Tech. 35 completed and 5 in progress

  B.Tech. 50 completed and 6 in progress

Research and Development:–

Around 28 years of R&D experience as Research Scientist at Central Electronics Engineering Research Institute (CEERI), Pilani, India, and Institut für Hochleistungsimpuls– und Mikrowellentechnik (IHM), Karlsruhe Institute of Technology (formerly Forschungszentrum Karlsruhe), Germany. Managed the following Grant–in–aid Sponsored Projects:

Year	Sponsoring Agency	External Cash Flow	PI or Co–PI	Status
1991–99	DAE	≈ Rs. 290 Lacs	Co–PI	Completed
2000–01	DAE	≈ Rs. 100 Lacs	Co–PI	Completed
2004–07	MHRD	Rs. 8 Lacs	PI	Completed
2006–15	DST	Rs. 84.60 Lacs	PI	Completed
2014–15	DRDO	Rs. 9.60 Lacs	PI	On–going
2015–18	DST	Rs. 380.00 Lacs	PI/Coordinator	FIST Grant
2016–18	DRDO	Rs. 30.00 Lacs	PI	On–going
2016–19	DRDO	Rs. 59.75 Lacs	Co–PI	On–going
2017–20	DRDO	Rs. 36.10 Lacs	PI	Proj. awarded
2017–18	RICET	Rs. 16.00 Lacs	PI	Proj. awarded

Publications

Total: ≈ 291

Books: 4 for Springer–Verlag, Berlin–Heidelberg, Germany

Journals: ≈ 84

Conferences: ≈ 191

Technical Reports: ≈ 12

Academic, R&D, and Industrial Links

- Institute of Plasma Research (IPR), Gandhinagar, India.
- Central Electronics Engineering Research Institute (CEERI), Pilani, India.
- Microwave Tubes Research and Development Center (DRDO), Bangalore, India.
- Bharat Electronics (formerly BEL), Bangalore, India.
- Karlsruhe Institute of Technology, Inst. of Pulsed Power & Microwave Technology, Karlsruhe, Germany.
- IHE, Karlsruhe Institute of Technology, Karlsruhe, Germany.
- Microelectronics and Material Physics Laboratory, Uni. of Oulu, Finland.
- Dept. of Engineering, Fukui University, Japan.

Membership of Professional Bodies

- Fellow, IET (Inst. of Engineering and Technology, UK) # 1100390265
- Fellow Life, IETE (Inst. Electronics and Telecom. Engineers, India) # F138559
- Fellow Life, IE (Inst. of Engineers, India) # F109688-1
- Fellow Life, VEDAS (Vac. Elec. Devices & Applications Society, India) # F050L
- Senior Member, IEEE (USA) # 41584566
- Member, European Microwave Association (EuMA) # AM2797
- Member Life, PSSI (Plasma Science Society, India) # LM-648

Outlook

- To excel in the field of High Power Millimeter & THz Wave Engineering (sources and components), Computational Electromagnetics, Printed Antennas and MICs.

Detailed Curriculum Vitae

Professor M.V. Kartikeyan

FIETE; FIE; FIET; Humboldtian

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Education

* Ph.D. in 1992 from the Institute of Technology, Banaras Hindu University, Varanasi, India.

* Master of Science in 1985 from the Banaras Hindu University, Varanasi, India.

Areas of Research Interest

– Millimeter and THz Wave Engineering (Electron Cyclotron Masers and other High Power Devices and Components), Microstrip Antennas for Communications, Computational Electromagnetics, Microwave Integrated Circuits, and RF & Microwave Design with Soft Computing Techniques.

Professional Experience

Academics and R&D:– Around 28 years of experience in reputed Academic and R&D Institutions.

* Worked as the Head, Department of Electronics & Communication Engineering, Indian Institute of Technology, Roorkee (IITR), India (May 2013-February 2016).

* Worked as the Head, Institute Computer Center, Indian Institute of Technology, Roorkee (IITR), India (January 2012-April 2014)

* Full–Professor since September 2009 in the Department of Electronics and Communication Engineering, Indian institute of Technology, Roorkee (IITR), India.

* Worked as an Associate Professor from July 2003 to August 2009 at IITR.

* Worked as Research Scientist at the Institut für Hochleistungsimpuls– und Mikrowellentechnik, Karlsruhe Institute of Technology, Karlsruhe, Germany, from July 2001 to June 2003 (with a special bequest of the *AvH Stiftung, Bonn, Germany*, for *long–term cooperation*).

* Worked as a Research Scientist in Central Electronics Engineering Research Institute, Pilani, India, from January 1989 to June 2001.

Work Experience in Various R&D Projects :–

* Design of Specific Gyrotrons for thermonuclear fusion reactors and other ISM Applications (July 2003 – till date at IITR, Roorkee, India).

* Design and development of high power gyrotrons for plasma fusion and industrial applications (Jan–Sept 1996, Dec. 1998 – Jan. 2000, July 2001–June 2003, at KIT, Karlsruhe, Germany).

* Design and development of specific high power microwave sources (Jan. 1989 – June 2001, CEERI, Pilani, India).

Grant–in–aid Sponsored Projects (as Principal/Co– Investigator):–

Year	Sponsoring Agency	External Cash Flow	PI or Co–PI	Status
1991–99	DAE	≈ Rs. 290 Lacs	Co–PI	Completed
2000–01	DAE	≈ Rs. 100 Lacs	Co–PI	Completed
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2016–18	DRDO	Rs. 30.00 Lacs	PI	On–going
2016–19	DRDO	Rs. 59.75 Lacs	Co–PI	On–going
2017–20	DRDO	Rs. 36.10 Lacs	PI	Proj. awarded
2017–18	RICET	Rs. 16.00 Lacs	PI	Proj. awarded

Teaching Experience :–

List of courses offered :–

- Computational Techniques for Microwaves
- RF & Microwave MEMS
- RF Receiver Design for Wireless Applications

- Microwave & Millimeter Wave Integrated Circuits
- Fiber Optic Systems
- Advanced Microwave Engineering
- Microwave Theory & Techniques
- Antennas & Wave Propagation
- Antenna Theory & Design
- Basic Electronics (Devices & Circuits)
- Microwaves (Laboratory)
- Advanced Microwaves (Laboratory)
- Digital Switching Circuits (Laboratory)
- Basic Electronics (Laboratory)

Number of Theses Guidance:–

Ph.D. 9 completed and 8 in progress

M.Tech. 35 completed and 5 in progress

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Academic, R&D, and Industrial Links

- Institute for Plasma Research (IPR), Gandhinagar, India.
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- Microwave Tubes Research and Development Center (DRDO), Bangalore, India.
- Bharat Electronics (formerly BEL), Bangalore, India.
- IHE, KIT, Karlsruhe, Germany.
- Microelectronics and Material Physics Laboratory, Uni. of Oulu, Finland.
- Inst. of Pulsed Power & Microwave Technology, KIT, Karlsruhe, Germany.
- Dept. of Engineering, Fukui University, Japan.

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Recipient of the ***Alexander von Humboldt Fellowship*** (from July 2001 to June 2003).

Recipient of the ***Alexander von Humboldt Fellowship*** under re-invitation programme (June/July 2011 and June/July 2012).

Membership of Professional Bodies

- Fellow, IET (Inst. of Engineering and Technology, UK) # 1100390265
- Fellow Life, IETE (Inst. Electronics and Telecom. Engineers, India) # F138559
- Fellow Life, IE (Inst. of Engineers, India) # F109688-1
- Fellow Life, VEDAS (Vac. Elec. Devices & Applications Society, India) # F050L
- Senior Member, IEEE (USA) # 41584566
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Outlook

- To excel in the field of High Power Millimeter & THz Wave Engineering (sources and components), Computational Electromagnetics, Printed Antennas and MICs.

List of Publications

Books

1. **M.V. Kartikeyan**, E. Borie, and M. Thumm, "*Gyrotrons – High Power Microwave and Millimeter Wave Technology*," Springer–Verlag, Berlin–Heidelberg, Germany, 2004 (*ISBN 3–540–40200–4*).

2. N.C. Chauhan, **M.V. Kartikeyan**, A. Mittal, "*Soft Computing Methods for Microwave and Millimeter Wave Design Problems*," Studies in Computational Intelligence Series, Springer–Verlag, Berlin–Heidelberg, Germany, 2012 (*ISBN 978–3–642–25562–5*).

3. Basudeb Ghosh, Sachendra N. Sinha, **M.V. Kartikeyan**, "*Fractal Apertures in Conducting Screens, Waveguides, and Antennas: Analysis and Design*," Springer Series in Optical Sciences, Vol. 187, Springer–Verlag, Berlin–Heidelberg, Germany, 2014 (*ISBN 978–3–319–06534–2*).

4. Jagannath Malik, Amalendu Patnaik, **M.V. Kartikeyan**, "*Compact antennas for high data rate communications: Ultra-wideband (UWB) and Multiple-input-multiple-output (MIMO) technology*," Accepted for Springer–Verlag, Berlin–Heidelberg, Germany, 2017.

Journals

1. Sukhwinder Singh, **M.V. Kartikeyan**, "Full wave analysis of plasma loaded coaxial gyrotron cavity with triangular corrugations on the insert," Accepted, IEEE Trans. Electron Devices, February 2017.

2. Gaurav Singh, **M.V. Kartikeyan**, Manfred Thumm, "A 220/247.5/275 GHz, 1.0 MW, triple frequency regime gyrotron," Accepted, IEEE Trans. Electron Devices, February 2017.

3. Sukwinder Singh, **M.V. Kartikeyan**, "*Full wave analysis of coaxial gyrotron cavity with triangular corrugations on the insert*," Accepted, IEEE Trans. Electron Devices, January 2017.

4. Savitesh M. Sharma, Sudeb Dasgupta, **M.V. Kartikeyan**, "*Successive Conformal Mapping Technique to extract Inner Fringe Capacitance of Underlap DG-FinFET and its variations with Geometrical Parameters*," Early Access, IEEE Trans. Electron Devices, January 2017.

5. Arjun Kumar, Ramesh Patel, **M.V. Kartikeyan**, "*Investigation on microstrips filters with CSRR defected ground structure*," Advanced Electromagnetics, vol.5, no.2, August 2016.

6. Arjun Kumar, **M.V. Kartikeyan**, "*Design and realization of microstrip filters with new defected ground structure (DGS)*," Eng. Sci. Tech., Int. J., http://dx.doi.org/10.1016/j.jestch.2016.10.015, 2016.

7. Gaurav Singh Baghel, Stefan Illy, **M.V. Kartikeyan**, "*I/O System for a 77/154 GHz, 0.5 MW, dual regime gyrotron*," IEEE Trans. Electron Devices, vol. 63, no.11, pp. 4459-4465, November 2016.

8. S. Singh **M. V. Kartikeyan**, "*Analysis of plasma-loaded noncorrugated and triangular corrugated coaxial cavity*," IEEE Trans. Electron Devices, vol. 63, no. 10, pp. 4060-4066, October 2016.

9. Pravin R. Prajapati, Amalendu Patnaik, **M.V. Kartikeyan**, "*Improved DGS parameter extraction method for the polarization purity of circularly polarized microstrip antenna*," International Journal of RF and Microwave Computer-Aided Engineering (published online, DOI: 10.1002/mmce.21029), August 2016.

10. Gaurav Singh Baghel, **M.V. Kartikeyan**, "*Extended RF behavior of a 77/154 GHz, 0.5 MW, continuous wave gyrotron*," IEEE Trans. Electron Devices, vol. 63, no. 6, pp. 2538-2543, June 2016.

11. Leeladhar Malviya, Rajib K. Panigrahi, **M.V. Kartikeyan**, "*A 2×2 Dual-band MIMO antenna with polarization diversity for wireless applications*," Progress In Electromagnetics Research C, vol. 61, pp. 91-103, January 2016.

12. Jagannath Malik, Diksha Nagpal, **M.V. Kartikeyan**, "MIMO antenna with omnidirectional pattern diversity," IET Electronics Letters, vol. 52, no. 2, pp. 102-104, 2016.

13. Jaswinder Kaur, Rajesh Khanna, **M.V. Kartikeyan**, "*Novel Dual Band Microstrip Monopole Antenna With Defected Ground Structure for WLAN/IMT/Bluetooth/WiMAX Applications*," International Journal of Microwave and Wireless Technologies, vol. 6, no. 1, pp. 93-100, 2014.

14. Jaswinder Kaur, Rajesh Khanna, **M. V. Kartikeyan**, "*Optimization and Development of O-Shaped Triple band Microstrip Patch Antenna for Wireless Communication Applications*," IETE Journal of Research, vol. 60, no. 2, pp. 95-105, 2014.

15. Amanpreet Kaur, Rajesh Khanna, **M.V. Kartikeyan**, "*A multilayer dual wideband circularly polarized microstrip antenna with DGS for WLAN/Bluetooth/ZigBee/Wi-Max/IMT band applications*," International Journal of Microwave and Wireless Technologies, pp. 1-9, doi: 10.1017/S1759078715001294, Published on line: 25 August 2015.

16. Amanpreet Kaur, Rajesh Khanna, **M.V. Kartikeyan**, "*A stacked sierpinski gasket fractal antenna with a defected ground structure for UWB/WLAN/RADIO astronomy/STM Link applications*," Microwave and Optical Technology Letters, vol. 57, no. 12, pp. 2786-2792, December 2015.

17. Sukwinder Singh, **M.V. Kartikeyan**, "Analysis of a triangular corrugated coaxial cavity for megawatt class gyrotron," IEEE Trans. Electron Devices, vol. 62, no. 7, pp. 2333-2338, July 2015.

18. Jagannath Malik, **M.V. Kartikeyan**, "*Transient response of dual band-notched ultra-wideband antenna*," Int. J. of Microwave and Wireless Technologies, vol. 7, no. 1, pp. 61-67, February 2015.

19. P. R. Prajapati, G. G. K. Murthy, A. Patnaik, **M.V. Kartikeyan**, "*Design and testing of a compact circularly polarized microstrip antenna with fractal defected ground structure for L-band applications*," IET Microwaves, Antennas and Propagation, vol.9, no. 11, pp. 1179-1185, 2015.

20. Pravin R. Prajapati, A. Patnaik, and **M.V. Kartikeyan**, "*Design and Characterization of an Efficient Multi-layered Circularly Polarized Microstrip Antenna*," International Journal of Microwave and Wireless Techniques, Cambridge Univ. Press, DOI: 10.1017/S1759078715000549, March 2015.

21. Jagannath Malik, V. Paritosh, **M.V. Kartikeyan**, "*Continuously tunable band-notched ultra-wideband antenna*," Microwave and Optical Technology Letters, vol. 57, no. 4, pp. 924-928, April 2015.

22. Jagannath Malik, Amalendu Patnaik, **M.V. Kartikeyan**, "*A Compact Dual-Band Antenna with Omnidirectional Radiation Pattern*," IEEE Antennas and Wireless Propagation Letters, vol. 14, pp. 503-506, 2015.

23. Jagannath Malik, Amalendu Patnaik, **M.V. Kartikeyan**, "*Novel Printed MIMO Antenna with Pattern and Polarization Diversity*," IEEE Antennas and Wireless Propagation Letters, vol. 14, pp. 739-742, 2015.

24. Ravi Kumar Dhakad, Gaurav Singh Baghel, **M.V. Kartikeyan**, Manfred Thumm, "*Output System for a 170 GHz/1.5 MW Continuous Wave Gyrotron Operating in the* $TE_{28,12}$ *Mode*," IEEE Trans. Plasma Science, vol. 43, no. 1, pp. 391-397, January 2015.

25. Jagannath Malik, **M.V. Kartikeyan**, "*Band-notched UWB antenna with raised cosine-tapered ground plane*," Microwave and Optical Technology Letters, vol. 56, no. 11, pp. 2576-2579, November 2014.

26. Parth Kalaria, **M.V. Kartikeyan**, Manfred Thumm, "*Design of 170 GHz, 1.5 MW Conventional Cavity Gyrotron for Plasma Heating*," IEEE Trans. Plasma Science, vol. 42, no. 6, pp. 1522-1528, June 2014.

27. Ashwini Sawant, Prerit Jain, Stefan Illy, **M.V. Kartikeyan**, "*A triode type magnetron injection gun for a dual frequency regime gyrotron operating at 42/84 GHz*," IEEE Trans. Plasma Science, vol. 41, no. 11, pp. 3115-3121, November 2013.

28. Arjun Kumar, **M.V. Kartikeyan**, "*A design of a terahertz microstrip bandstop filter with defected ground structure (DGS)*," Active and Passive Electronic Components, Article ID 192018, pp. 1-5, http://dx.doi.org/10.1155/2013/192018, September 2013.

29. Arjun Kumar and **M.V. Kartikeyan**, "*Microstrip Filters with Defected Ground Structure: A Close Perspective*," International Journal of Microwave and Wireless Technologies, Vol. 5, No.5, pp. 589-602, October 2013.

30. Arjun Kumar, Jagannath Malik, **M.V. Kartikeyan**, "*A comparative study of microstrip bandstop filters loaded with various dumbbell-shaped defected ground structure (DGS)*," Int. J. of Microwave and Optical Technology, vol. 8, no. 2, March 2013.

31. Jagannath Malik, Parth C. Kalaria, **M.V. Kartikeyan**, "*Complementary Sierpinski gasket fractal antenna for dual band WiMAX / WLAN (3.5/5.8 GHz) applications*," Int. J. of Microwave and Wireless Technologies, no. 2, pp. 1-7, February 2013.

32. Jgannath Malik, **M.V. Kartikeyan**, "*Metamaterial inspired patch antenna with L-shape slot loaded ground plane for dual band (WIMAX/WLAN) applications*," Progress In Electromagnetics Research Letters, vol. 31, pp. 35-43, April 2012.

33. M. S. Srinath, P. Suryanarayana Murthy, Apurbba Kumar Sharma, Pradeep Kumar, **M.V. Kartikeyan**, "*Simulation and analysis of microwave heating while joining bulk copper*," International Journal of Engineering, Science and Technology, vol. 4, no. 2, pp. 152-158, February 2012.

34. A. K. Arya, A. Patnaik, and **M.V. Kartikeyan**, "*Microstrip patch antenna with skew-F shaped DGS for dual band operation*," Progress In Electromagnetics Research M, vol. 19, pp. 147–160, July 2011.

35. Harshvardhan Tiwari, **M.V. Kartikeyan**, "*A stacked microstrip patch antenna loaded with U–shaped slots*," Frequenz, Issue. 5–6, June 2011.

36. Jgannath Malik, **M.V. Kartikeyan**, "*A stacked equilateral triangular patch antenna with Sierpinski gasket fractal for WLAN applications*," Progress In Electromagnetics Research–Letters, vol 22, pp. 71–81, March 2011.

37. Ashwini Kumar Arya, Amalendu Patnaik, **M.V. Kartikeyan**, "*Back to back combined single feed proximity coupled antenna with dumbbell shaped DGS*," Journal of Electromagnetic Analysis and Applications, vol. 3, pp. 43–46, March 2011.

38. Divya Goel, Rajdeep Niyogi, **M.V. Kartikeyan**, "*An Evolutionary Algorithm Based Approach for Rule Discovery*," International Journal of Advanced Computing, vol 2, No. 4, pp. 171–176, October 2010.

39. A. Aggarwal, **M.V. Kartikeyan**, "*Pythagoras tree: a fractal patch antenna for multi–frequency and ultra–wide bandwidth operations*," Progress In Electromagnetics Research–C, Vol. 16, pp. 25–35, September 2010.

40. Arun Kumar, Davinder Prakash, **M.V. Kartikeyan**, "*Planar antennas for passive UHF RFID tags on flexible copper clad laminate*," Microwave and Optical Technology Letters, vol. 52, no. 8, pp. 1761–1763, August 2010.

41. Ragini Jain, **M.V. Kartikeyan**, "*Design of a 60 GHz, 100 kW CW gyrotron for plasma diagnostics: GDS–V.01 simulations*," Progress in Electromagnetics Research–B, Vol. 22, pp. 379–399, July 2010.

42. Harshvardhan Tiwari, **M.V. Kartikeyan**, "*A stacked microstrip patch antenna with fractal shaped defects*," Progress in Electromagnetics Research–C, Vol. 14, pp. 185–195, July 2010.

43. Basudeb Ghosh, Sachendra N. Sinha, **M.V. Kartikeyan**, "*Radiation from rectangular waveguide fed fractal apertures*", IEEE Trans. Antennas and Propagation, Vol. 58, No. 6, pp. 2088–2093, June 2010.

44. Ashwini Kumar, **M.V. Kartikeyan**, Amalendu Patnaik, "*Defected Ground Structures in the perspective of Microstrip Antennas: A Review*," Frequenz, Vol. 64, No. 5–6, pp. 79–84, June 2010.

45. Basudeb Ghosh, Sachendra N. Sinha, **M.V. Kartikeyan**, "*Investigations on fractal frequency selective diaphragms in rectangular waveguide*," International Journal of RF and Microwave Computer-Aided Engineering, Vol. 20, No. 2, pp. 209–219, March 2010.

46. A. K. Sowpati, V. K. Palukuru, V. Pynttari, R. Makinen, **M.V. Kartikeyan**, H. Jantunen, "*Performance of printable antennas with different conductor thickness*," Progress In Electromagnetics Research Letters, vol. 13, pp. 59–65, 2010.

47. A. Kumar, D. Parkash, **M.V. Kartikeyan**, "*Planar antennas for passive UHF RFID tag*," Progress In Electromagnetics Research B, vol. 19, pp. 305–327, 2010.

48. Pankhuri, **M.V. Kartikeyan**, "*Full–ψ and half–ψ patch antennas for 2.4/5.8 GHz WLAN application*," Frequenz, vol. 1–2, 2010.

49. N. Chauhan, **M.V. Kartikeyan**, A. Mittal, "*CAD of RF–windows using multi–objective particle swarm optimization*," IEEE Trans. Plasma Science, vol. 37, No. 6, pp. 1104–1109, June 2009.

50. N. Chauhan, **M.V. Kartikeyan**, A. Mittal, "*A modified particle swarm optimizer and its application to the design of microwave filters*," J. Infrared Milli. Terahz. Waves, vol. 30, pp. 598–610, 2009.

51. N. Chauhan, **M.V. Kartikeyan**, A. Mittal, "*A review on the use of soft computing methods for design applications of microwave domain*," Frequenz, vol. 63, no. 1–2, pp. 24–31, 2009.

52. Basudeb Ghosh, Sachendra N. Sinha, **M.V. Kartikeyan**, "*Electromagnetic Transmission Through Fractal Apertures in Infinite Conducting Screen*", Progress In Electromagnetics Research B, vol. 12, pp. 109–138, 2009.

53. N. Chauhan, A. Mittal, D. Wagner, **M.V. Kartikeyan**, M. Thumm, "*Design and optimization of nonlinear tapers using particle swarm optimization*," Int. J. Infrared & Millimeter Waves, vol. 29, no. 8, pp. 792–798, August 2008.

54. **M.V. Kartikeyan**, Arun Kumar, S. Kamakshi, P.K. Jain, S. Illy, E. Borie, B. Piosczyk, M.K. Thumm, "*RF–Behavior of a 200 kW, CW Gyrotron*," IEEE Trans. Plasma Science, vol. 36, no. 3, pp. 631–636, June 2008.

55. N. Chauhan, A. Mittal, **M.V. Kartikeyan**, "*Support vector driven evolutionary algorithm for the design of circular polarized microstrip antenna*," Int. J. Infrared & Millimeter Waves, vol. 29, no. 6, pp. 558–569, June 2008.

56. Narendra Chauhan, Y. Krishna Roy, Arun Kumar, Ankush Mittal, **M.V. Kartikeyan**, "*SVM–PSO Based Modeling and Optimization of Microwave Components*," Frequenz – J. of RF–Engineering and Telecommunications, vol. 62, no. 1–2, pp. 18–24, 2008.

57. G. Singh, **M.V. Kartikeyan** "*Feasibility study of axially–extracted virtual cathode oscillator*," Int. J. Infrared and Millimeter Waves, vol. 28, no. 11, pp. 911–922, 2007.

58. **M.V. Kartikeyan**, E. Borie, M.K. Thumm, "*A 250 GHz, 50 W, CW second harmonic gyrotron*," Int. J. Infrared and Millimeter Waves, vol. 28, no. 8, pp.611–619, 2007.

59. Solomon Raju Kota, Chandra Shekhar, **M.V. Kartikeyan**, R.C. Joshi, "*A Methodology for Architectural Design of Reconfigurable Embedded Computing Systems*," Int. J.

Computer Science and Information Technology (IJCSIT-ISSN-0973-3019, accepted for publication in Q–4 issue), 2007.

60. Arun Kumar, **M.V. Kartikeyan**, "*A circularly polarized stacked patch aperture coupled microstrip antenna for 2.6 GHz band*," Int. J. of Infrared and Millimeter Waves, vol. 28, no. 1, pp. 13–23, 2007.

61. G. Singh, **M.V. Kartikeyan**, BN Basu, "*Gain–Frequency Response of Nearby Waveguide Modes in Vane–Loaded Gyro–TWT*," IEEE Trans. Plasma Science, vol. 34, no. 3, pp. 554–558, June 2006.

62. **M.V. Kartikeyan**, G. Singh, E. Borie, B. Piosczyk, M. Thumm, "*Conceptual Design Studies of an 84 GHz, 500 kW, CW Gyrotron*," International Journal of Infrared and Millimeter Waves, vol. 27, no. 5, pp. 657–670, 2006.

63. G. Singh, **M.V. Kartikeyan**, G.S. Park, "*Gain and bandwidth analysis of a vane–loaded gyro–TWT*," International Journal of Infrared and Millimeter Waves, vol. 27, pp. 333–342, 2006.

64. G. Singh, **M.V. Kartikeyan**, "*Optimization of vane–parameters for gain–frequency response of vane-loaded gyro–TWT*," International Journal of Infrared and Millimeter Waves, vol. 26, no. 2, pp. 247–261, February 2005.

65. B. Piosczyk, G. Dammertz, O. Dumbrajs, **M.V. Kartikeyan**, M. Thumm, X Yang, "*165–GHz Coaxial cavity gyrotron*," IEEE Trans. Plasma Science, vol. 32, no. 3, June 2004.

66. **M.V. Kartikeyan**, E Borie, O Drumm, B Piosczyk, M Thumm, "*Design of a 42 GHz, 200 kW Gyrotron Operating at the Second Harmonic*," IEEE Trans. Microwave Theory & Techniques, vol. 52, no. 2, pp. 686–692, February 2004.

67. BP Piosczyk, A Arnold, H Budig, G Dammertz, O Dumbrajs, O Drumm, **M.V. Kartikeyan**, M Kuntze, M Thumm, and X Yang, "*Towards a 2 MW, CW coaxial cavity gyrotron for ITER*," Fusion Engineering and Design, vol. 66–68, pp. 481–485, September 2003.

68. E. Borie, K. Koppenburg, S. Illy, O. Drumm, **M.V. Kartikeyan**, B. Piosczyk, X. Yang, G. Dammertz, and M. Thumm, "*Possibilities for multifrequency operation of a gyrotron at FZK*," IEEE Trans. Plasma Science, vol. 30, no. 3, pp. 828-835, June 2002.

69. G. Singh, **M.V. Kartikeyan**, AK Sinha, and BN Basu, "*Effects of beam and magnetic field parameters on highly competing TE_{01} and TE_{21} modes of vane–loaded gyro–TWT*,"

International Journal of Infrared and Millimeter Waves, vol. 23, no. 4, pp. 517–533, April 2002.

70. **M.V. Kartikeyan**, AK Sinha, Manfred Thumm, "*Equivalent circuit parameters for non–azimuthally symmetric fast modes of helix loaded waveguides used in gyro–TWTs*," IEEE Trans. Plasma Science, vol. 30, no. 2, pp. 375–379, February 2002.

71. **M.V. Kartikeyan**, C.T. Iatrou, Manfred Thumm, "*A coaxial gyro–TWT*," IEEE Trans. Plasma Science, vol. 29, no. 1, pp. 57–61, February 2001.

72. P. –K. Liu, E. Borie, and **M.V. Kartikeyan**, "*Design of a 24 GHz 25–50 kW technology gyrotron operating at the second harmonic*," International Journal of Infrared and Millimeter Waves, vol. 21, no. 12, pp. 1917–1943, December 2000.

73. **M.V. Kartikeyan**, E. Borie and M. Thumm, "*P*ossible operation of a 1.5–2 MW, CW conventional cavity gyrotron at 140 GHz," IEEE Trans. Plasma Science, vol. 28, no. 3, pp. 645–651, June 2000.

74. **M.V. Kartikeyan**, E. Borie and M. Thumm, "*Design of an electron gun for a 42 GHz, 200 kW, TE_{52} mode gyrotron using the BFCRAY code*," IETE Tech. Review, vol. 17, no. 5, pp. 275–281, September–October 2000.

75. **M.V. Kartikeyan**, AK Sinha, HN bandopadhyay, SN Joshi, E. Borie, amd M. Thumm, "*A cylindrical waveguide structure with helical grooves for high power TWTs*," Int. J. Infrared and Millimeterwaves, vol. 21, no. 4, pp. 553–561, April 2000.

76. **M.V. Kartikeyan**, E. Borie, et al., "*Conceptual design of a 42 GHz, 200 kW, gyrotron operating in the $TE_{5,2}$ mode*," International Journal of Electronics, vol. 87, no. 6, pp. 709–723, June 2000.

77. **M.V. Kartikeyan**, AK Sinha, HN Bandopadhyay and DS Venkateswarlu, "*Effective Simulation of the Radial Thickness of Helix for Broad Band, Practical TWTs*," IEEE Trans. Plasma Science, vol. 27, no. 4, pp. 1115–1123, August 1999.

78. **M.V. Kartikeyan**, VVP Singh, HN Bandopadhyay, "*RF Window design of a 200 kW CW, 42 GHz gyrotron operating at* $TE_{-5,2}$ *mode for CEERI*," Bulletin of Indian Vac. Soc., vol. 2, pp. 115–118, June 1999.

79. B. Piosczyk, E. Borie, O. Braz, G. Dammertz, C.T. Iatrou, S. Illy, S. Kern, M. Kuntze, **M.V. Kartikeyan**, G. Michel, A. Möbius, M. Thumm,"*Advanced high power gyrotrons for ECW application*," Fusion Technology–1996, Eds. C. Varandas, F. Serra, Elsevier Science Publishers B.V., pp. 545–548, 1997.

80. **M.V. Kartikeyan**, et al, "*Computer Aided Study of some Reentrant cavities for klystrons*," Journal of IETE, vol. 39, No.6, pp. 339–344, Nov–Dec 1993.

81. **M.V. Kartikeyan**, A.K. Sinha, H.N. Bandopadhyay, D.S. Venkateswarlu, "*A study of radially thick helix: Equivalent circuit approach*," IEEE Transactions on Electron Devices, vol. 39, pp. 1961–1965, August 1992.

82. A Sharma, OS Lamba, VVP Singh, S Chander, NC Gupta, **M.V. Kartikeyan**, LM Joshi, and HN Bandopadhyay, "*Thin film secondary emitters for CFAs*," Bulletin Indian Vac. Soc., vol. 23, No. 1, pp. 37–40, March 1992.

83. VVP Singh, S Chander, Aruna Sharma, **M.V. Kartikeyan**, NC Gupta, and HN Bandopadhyay, "*Design and development of a demountable electrostatic module for measuring secondary electron emission ratio*," IETE Tech. Rev., vol. 9, No. 1, pp. 65–69, 1992.

84. **M.V. Kartikeyan** and DS Venkateswarlu, "*Computer aided design of the coaxial cavity of circular electric mode magnetron*," IETE Tech. Rev., vol. 6, No. 6, p. 492, Nov–Dec, 1989.

Conferences

1. **M.V. Kartikeyan**, "*A close perspective of Sub-THz wave sources*," Invited talk, 15th Int. Sym. on Antennas and Propagation (APSYM-2016), December 15-17, 2016, Cochin, India.

2. Leeladhar Malviya, Rajib K. Panigrahi, **M.V. Kartikeyan**, "*Proximity coupled MIMO antenna for WLAN/WiMAX applications*," Paper No. 1226, IEEE Asia Pacific Microwave Conference, 5-9 December 2016 (APMC), New Delhi, India.

3. Jagannath Malik, Amalendu Patnaik, **M.V. Kartikeyan**, "*Modulated metasurface for circular polarization*," Paper No. 1462, IEEE Asia Pacific Microwave Conference, 5-9 December 2016 (APMC), New Delhi, India.

4. Jagannath Malik, Amalendu Patnaik, **M.V. Kartikeyan**, "*Time-domain performance of band-notch techniques in UWB antenna*," Paper No. 1461, IEEE Asia Pacific Microwave Conference, 5-9 December 2016 (APMC), New Delhi, India.

5. Leeladhar Malviya, Rajib K. Panigrahi, **M.V. Kartikeyan**, "2×2 *MIMO antenna for ISM band application*," 11th International Conference on Industrial and Information Systems (ICIIS 2016), 3-5 December 2016, Roorkee, India.

6. Nupur Sood, Kr. Goodwill, **M.V. Kartikeyan**, "*Metamaterial inspired CSSRR design for WLAN microstrip patch antenna*," 11th International Conference on Industrial and Information Systems (ICIIS 2016), 3-5 December 2016, Roorkee, India.

7. Neha Singh, Kr. Goodwill, **M.V. Kartikeyan**, "*Design studies of three layer HIS design for L-band frequencies*," 11th International Conference on Industrial and Information Systems (ICIIS 2016), 3-5 December 2016, Roorkee, India.

8. Kumar Goodwill, **M.V. Kartikeyan**, "*Pattern reconfigurable CPW UWB antenna for wireless application using ferrite based EBG metasurface*," 11th International Conference on Industrial and Information Systems (ICIIS 2016), 3-5 December 2016, Roorkee, India.

9. **M.V. Kartikeyan**, Gaurav Singh Baghel, Amitavo Roy Choudhury, M. Thumm, "*A Megawatt-Class 220 GHz conventional cavity gyrotron*,"17th IEEE International Vacuum Electronics Conference (IVEC-2016), 19-21 April 2016, Monterey, California.

10. **M.V. Kartikeyan**, "*Gyrotrons for clean energy and other ISM applications (Invited Talk)*," Int. Conf. on Microwave, Opt. and Com. Engineering (ICMOCE 2015), Bhubaneswar, Odisha, India, 18-20 December, 2015.

11. S. Yuvaraj, Sukwinder Singh, Gaurav Singh Baghel, **M.V. Kartikeyan**, "*Mode Selection and Interaction Structure Design of a Megawatt Class, Sub-THz Wave Coaxial Cavity Gyrotron*," Int. Conf. on Microwave, Opt. and Com. Engineering (ICMOCE 2015), Bhubaneswar, Odisha, India, 18-20 December, 2015.

12. Jagannath Malik, Amalendu Patnaik, **M.V. Kartikeyan**, "*Capacity Estimation of A Comapct Pattern Diversity MIMO Antenna*," Int. Conf. on Microwave, Opt. and Com. Engineering (ICMOCE 2015), Bhubaneswar, Odisha, India, 18-20 December, 2015.

13. Leeladhar Malviya, Jagannath Malik, Rajib K. Panigrahi, **M.V. Kartikeyan**, "*Design of a compact MIMO antenna with polarization diversity technique for wireless communication*," Int. Conf. on Microwave, Opt. and Com. Engineering (ICMOCE 2015), Bhubaneswar, Odisha, India, 18-20 December, 2015.

14. M. Srinivasulu, P.R. Prajapati, **M.V. Kartikeyan**, "*Realization of Circular Polarized Microstrip Antenna with Arc-Slot Fractal Geometry*," Int. Conf. on Microwave, Opt. and Com. Engineering (ICMOCE 2015), Bhubaneswar, Odisha, India, 18-20 December, 2015.

15. Leeladhar Malviya, Rajib K. Panigrahi, **M.V. Kartikeyan**, "*Pattern Diversity Based MIMO Antenna For Low Mutual Coupling*," IEEE Applied Electromagnetics Conference (AEMC 2015), Guwahati, India, 18-21 December 2015.

16. Jagannath Malik, Amalendu Patnaik, **M.V. Kartikeyan**, "*Analysis of Band-Notch Techniques in UWB Antenna for Impulse Radio Communications*," IEEE Applied Electromagnetics Conference (AEMC 2015), Guwahati, India, 18-21 December 2015.

17. Gaurav Singh Baghel, S. Karmakar, Amitavo Roy Choudhury, S. Kamath, **M.V. Kartikeyan**, "*Cavity Design and Extended Interaction Studies of a W-band Gyrotron*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2015), 3-5 December 2015, Bangalore, India.

18. Gaurav Singh Baghel, S. Karmakar, Sukwinder Singh, S. Yuvaraj, Ravi K. Dhakad, S. Kamath, **M.V. Kartikeyan**, "*Output System of W-band Gyrotron*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2015), 3-5 December 2015, Bangalore, India.

19. Sukwinder Singh, **M.V. Kartikeyan**, "*Design of Triangular Corrugated Cavity for 1.5 MW, 170 GHz Coaxial Cavity Gyrotron*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2015), 3-5 December 2015, Bangalore, India.

20. Gaurav Singh Baghel, **M.V. Kartikeyan**, "*RF Behavior of A 42/84 GHz, 0.5 MW, Dual Frequency Gyrotron*," 40th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz-2015), 23-28 August 2015, Hong Kong, China.

21. Jagannath Malik, Aditi Purwar, **M.V. Kartikeyan**, "*Novel MIMO Antenna with Co-located Radiators*," Recent Advances in Electronics and Computer Engineering (RAECE)-2015, Febrauary 13-15, 2015, IIT, Roorkee, India.

22. Jagannath Malik, Aditi Purwar, **M.V. Kartikeyan**, "*Dual Band-Notched UWB Printed Antenna for IR Communications*," Recent Advances in Electronics and Computer Engineering (RAECE)-2015, Febrauary 13-15, 2015, IIT, Roorkee, India.

23. Aditi Purwar, Jagannath Malik, **M.V. Kartikeyan**, "*Tri-band Printed MIMO antenna working on 1.7, 2.7 and 3.7 GHz*," Recent Advances in Electronics and Computer Engineering (RAECE)-2015, Febrauary 13-15, 2015, IIT, Roorkee, India.

24. M Srinivasulu, PR Prajapati, **M.V. Kartikeyan**, "*Realization of Circularly Polarized Microstrip Antenna using Fractal Geometry*," Recent Advances in Electronics and Computer Engineering (RAECE)-2015, Febrauary 13-15, 2015, IIT, Roorkee, India.

25. Sukwinder Singh, **M.V. Kartikeyan**, "*Field Analysis of a Novel Interaction Structure for High Power Sub-THz Wave Coaxial Cavity Gyrotrons*," IMARC-2014, December 15-17, 2014, Bangalore, India.

26. P. R. Prajapati, G. G. K. Murthy, A. Patnaik, and **M.V. Kartikeyan**, "*Design of Compact Circular Disc Circularly Polarized Antenna with Koch Curve Fractal Defected Ground Structure*," 31st International Union of Radio Science General Assembly and Scientific Symposium (URSI-GASS 2014), 16-23 August, 2014, Bejing, China.

27. P. R. Prajapati, A. Patnaik, and **M.V. Kartikeyan**, "*Design of Single Feed Dual Band Dual Polarized Microstrip Antenna With Defected Ground Structure for Aeronautical and Radio Navigation*," 31st International Union of Radio Science General Assembly and Scientific Symposium (URSI-GASS 2014), 16-23 August, 2014, Bejing, China.

28. P. R. Prajapati, G. G. K. Murthy, A. Patnaik, and **M.V. Kartikeyan**, "*Compact Circularly Polarized Microstrip Patch Antenna for WLAN Applications*," IEEE Indian Antenna Week (Organized by with NITTTR, Chandigarh & Punjab Technical University and IEEE MTTS Kolkata section), May 26-30, 2014, Chandigarh.

29. **M.V. Kartikeyan**, Amitavo Roy Choudhury, John Jelonnek, Manfred Thumm "*High Power Sub-THz Wave Sources for Clean Energy and Other ISM Applications*," India-UK Scientific Seminar on High Power THz Vac. Dev. for Social Benefits: India-UK Joint Action, March 5-7 2014, CEERI, Pilani, India.

30. V. Vashistha, **M.V. Kartikeyan**, Jagannath Malik, R.P. Maheshwari, "*Analysis of ultra wide band dielectric resonator antenna with band notch for WLAN communication*," IEEE Students Conf. on Electrical, Electronics and Computer Science (SCEECS-2014), March 1-2, 2014, MNIT, Bhopal, India.

31. P. R. Prajapati, G. G. K. Murthy, A. Patnaik, and **M.V. Kartikeyan**, "*Asymmetrical Plus Shaped fractal Slotted Multilayered Yagi-Uda Circularly Polarized Microstrip Antenna with DGS*," IEEE Applied Electromagnetics International Conference (AEMC-2013), KIIT University, Bhubneshwer, India, December 18-20, 2013.

32. Arjun Kumar, Jagannath Malik, **M.V. Kartikeyan**, "*Design studies of a terahertz microstrip bandstop filter with defected ground structure*," Proc. Int. AvH Conf. (HOPE-2013), 12-14 September 2013, Nainital, India.

33. Jagannath Malik, Amalendu Patnaik, **M.V. Kartikeyan**, "*A compact UWB antenna with novel dual-shorted resonator for band rejection at WLAN*," Proc. Int. AvH Conf. (HOPE-2013), 12-14 September 2013, Nainital, India.

34. P.R. Prajapati, **M.V. Kartikeyan**, A. Patnaik, "*Application of defected ground structure to reduce out of band harmonics for WLAN microstrip antenna*," Proc. Int. AvH Conf. (HOPE-2013), 12-14 September 2013, Nainital, India.

35. **M.V. Kartikeyan**, John Jelonnek, M. Thumm, "*A 1.0-1.3 MW CW, 238 GHz Conventional Cavity Gyrotron*," 38th International Conference on Infrared, Millimeter and Terahertz Waves, Mainz on the Rhine, September 1-6, 2013, Germany.

36. Parth C. Kalaria, Ashwini Sawant, Jagannath Malik, S.L. Rao, **M.V. Kartikeyan**, M. Thumm, "*Estimation of Mode Purity of a Gyrotron RF Beam*," 38th International Conference on Infrared, Millimeter and Terahertz Waves, Mainz on the Rhine, September 1-6, 2013, Germany.

37. Arjun Kumar, **M.V. Kartikeyan**, "*A design of microstrip bandpass filter with narrow bandwidth using DGS/DMS for WLAN*," Proc. 19th National Conference on Communications (NCC-2013), Indian Institute of Technology Delhi, February 15-17, 2013.

38. Arjun Kumar, Ashwini Sawant, **M.V. Kartikeyan**, "*Investigation of fractal DGS microwave filters*," Proc. 19th National Conference on Communications (NCC-2013), Indian Institute of Technology Delhi, February 15-17, 2013.

39. Kumar Goodwill, Parth C. Kalaria, R. Patel, Jagannath Malik, A. Patnaik, **M.V. Kartikeyan**, "*Dual band microstrip patch antenna for wireless applications at 5.2 GHz and 5.8 GHz using CSSRR*," Proc. 2012 International Conference on Communications, Devices and Intelligent Systems (CODIS 2012), Kolkata, 28-29 December 2012.

40. **M. V. Kartikeyan**, Manfred Thumm, "*Feasibility studies of a 1.0 MW, 204 GHz CW, conventional cavity gyrotron for future thermonuclear fusion reactors*," 37th IRMMW-THz Conference, 23-28 September 2012, Uni. Wollongong, Australia, 2012.

41. **M. V. Kartikeyan**, Parth C. Kalaria, Manfred Thumm, "*Studies on a 0.5 MW, 42 GHz CW, conventional cavity gyrotron*," 37th IRMMW-THz Conference, 23-28 September 2012, Uni. Wollongong, Australia, 2012.

42. **M.V. Kartikeyan**, "*High power gyrotrons: A close perspective*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2012), 21-24 September 2012, Pilani, India.

43. Parth C. Kalaria, M.V. Kartikeyan, "*Design studies of magnetron injection gun and magnetic guidance system for a 170 GHz, 500 KW CW gyrotron*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2012), 21-24 September 2012, Pilani, India.

44. Parth C. Kalaria, **M.V. Kartikeyan**, "*Design studies of quasi-optical launcher for a 170 GHz, 1.5 MW CW gyrotron for ITER project*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2012), 21-24 September 2012, Pilani, India.

45. Ashwini Sawant, Prerit Jain, Parth C. Kalaria, Anjali Sharma, SLK Rao, **M.V. Kartikeyan**, "*Development iterative phase retrieval algorithm for quasi-optical milli-meter-wave RF beams*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2012), 21-24 September 2012, Pilani, India.

46. Prerit Jain, Ashwini Sawant, **M.V. Kartikeyan**, "*Investigations and design feasibility of a 30 GHz, 10kW, CW second harmonic gyrotron for processing of nano-materials*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2012), 21-24 September 2012, Pilani, India.

47. Ashwini Sawant, Prerit Jain, **M.V. Kartikeyan**, "*Feasibility of a dual-regime gyrotron*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2012), 21-24 September 2012, Pilani, India.

48. Ashwini K. Arya, A.Patnaik, **M.V. Kartikeyan**, "*Microstrip antenna with U-shaped DGS for dual-band operation*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2012), 21-24 September 2012, Pilani, India.

49. Arjun Kumar, **M.V. Kartikeyan**, "*A design of microstrip bandpass filter with narrow bandwidth using defected ground structure for WLAN*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2012), 21-24 September 2012, Pilani, India.

50. Arjun Kumar, Anish Goyal, **M.V. Kartikeyan**, "*Design studies of nine pole hi-low microstrip low pass filter for WLAN applications*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2012), 21-24 September 2012, Pilani, India.

51. Jagannath Malik, Ramesh Patel, **M.V. Kartikeyan**, R.Nath, "*Novel compact split ring resonator antenna for L-band (1.28 GHz) remote sensing applications*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2012), 21-24 September 2012, Pilani, India.

52. V. Paritosh Kumar, **M.V. Kartikeyan**, "*CPW fed printed monopole antenna with U-shaped patch for UWB applications*," National Conference on Vacuum Electronic Devices and Applications (VEDA-2012), 21-24 September 2012, Pilani, India.

53. **M.V. Kartikeyan**, "*High power gyrotrons*," Invited Talk, School on Pulsed power Technology (SPPT-2012), September 11-14, 2012, Bhabha Atomic Research Center, Mumbai, India.

54. Arjun Kumar, Kumar Goodwill, **M. V. Kartikeyan**, "*Design of nine pole hi-low microstrip low pass filter for L-band applications*," National Conference on Recent Trends in Microwave Techniques and Applications (MICROWAVE-2012), 30th July -1st August, 2012, Jaipur, India.

55. Parth C. Kalaria, Jagannath Malik, Kumar Goodwill, M. V. Kartikeyan, "*CPW fed reconfigurable antenna for GSM and WLAN applications*," National Conference on Recent Trends in Microwave Techniques and Applications (MICROWAVE-2012), 30th July -1st August, 2012, Jaipur, India.

56. Jagannath Malik, Parth C. Kalaria and M.V. Kartikeyan, "*CPW fed CSRR embedded patch antenna with symmetric slot for bluetooth/WLAN (2.4 /5.8 GHz) applications*," National Conference on Recent Trends in Microwave Techniques and Applications (MICROWAVE-2012), 30th July -1st August, 2012, Jaipur, India.

57. Parth C. Kalaria, **M.V. Kartikeyan**, M. Thumm, "*Output System Design for 170 GHz, O.5 MW Gyrotron for ECRH Application*,"13th IEEE International Vacuum Electronics Conference (IVEC-2012), 24–26 April 2012, Monterey, California.

58. Pravin Prajapati, **M. V. Kartikeyan**,"*Proximity coupled stacked circular disc microstrip antenna with reduced size and enhanced bandwidth using DGS for WLAN/ WiMAX applications*," Conf. Electrical, Electronics and Computer Science, March 1–2, 2012, Bhopal, India.

59. **M.V. Kartikeyan**, "*Gyrotrons for fusion energy and other ISM applications: a retrospective and perspective proposition*," Workshop on Recent Advances in Microwave Engineering: Devices, Technologies and Applications, January 20–21, 2012, Department of Electronics Engineering, Institute of Technology, Banaras Hindu University, Varanasi, India.

60. Ashwini K. Arya, A. Patnaik, **M.V. Kartikeyan**, "*A Compact Array with Low Mutual Coupling using Defected Ground Structures*," IEEE Applied Electromagnetics Conference (AEMC 2011), 18-22 December 2011, Kolkata, India.

61. Arjun Kumar, **M.V. Kartikeyan**, "*Design studies of ultra wideband microstrip bandpass filter with T-shaped defected ground structure controlled by inter-digital capacitance*," IEEE Applied Electromagnetics Conference (AEMC 2011), 18-22 December 2011, Kolkata.

62. Parth C. Kalaria, **M.V. Kartikeyan**, "*Modified CPW Fed Band-Notched Ultra-Wideband Antenna*," IEEE Applied Electromagnetics Conference (AEMC 2011), 18-22 December 2011, Kolkata, India.

63. Ashwini K. Arya, A. Patnaik, **M. V. Kartikeyan**, "*Electromagnetically Coupled Microstrip Antenna with Defected Ground Structure for Dual Band Operation*," International Conference on Microwaves, Antenna, propagation & Remote Sensing (ICMARS-2011), 18-22 December 2011, Jodhpur, India.

64. Ashwini K. Arya, A. Patnaik, **M. V. Kartikeyan**, "*Design Studies of Coaxial Fed Microstrip Antenna with Dumbbell Shaped Defected Ground Structure*," International Conference on Microwaves, Antenna, propagation & Remote Sensing (ICMARS-2011), 18-22 December 2011, Jodhpur, India.

65. Arjun Kumar, Ashwini K. Arya, **M. V. Kartikeyan**, "*Design of Dual Band Bandpass Filter with Circular shaped DGS Array*," International Conference on Microwaves, Antenna, propagation & Remote Sensing (ICMARS-2011), 18-22 December 2011, Jodhpur, India (Communicated).

66. Arjun Kumar, Ashwini K. Arya, **M. V. Kartikeyan**, "*Design of Microstrip Narrow Bandpass filter with hexagonal dumbbell shaped DGS for WLAN Applications*," International Conference on Microwaves, Antenna, propagation & Remote Sensing (ICMARS-2011), 18-22 December 2011, Jodhpur, India.

67. Parth C. Kalaria, **M. V. Kartikeyan**, M. Thumm, "*Design Considerations of a 170 GHz, 0.5 MW, CW Gyrotron*," International Conference on Microwaves, Antenna, propagation & Remote Sensing (ICMARS-2011), 18-22 December 2011, Jodhpur, India.

68. Parth C. Kalaria, **M. V. Kartikeyan**, M. Thumm, "*Design Studies of Quasi-optical Launcher of a 170 GHz, CW Gyrotron for ECRH Application*," International Conference on Microwaves, Antenna, propagation & Remote Sensing (ICMARS-2011), 18-22 December 2011, Jodhpur, India.

69. Nischey Grover, **M. V. Kartikeyan**, "*Design Studies of Two Element Dual Band PIFA Array for MIMO Applications*," International Conference on Microwaves, Antenna, propagation & Remote Sensing (ICMARS-2011), 18-22 December 2011, Jodhpur, India.

70. K. Goodwill, Parth C. Kalaria, A. Patnaik, **M. V. Kartikeyan**, "*Dual Band-High Gain-large Bandwidth at High Frequency Microstrip patch Antenna*," International Conference on Microwaves, Antenna, propagation & Remote Sensing (ICMARS-2011), 18-22 December 2011, Jodhpur, India.

71. Chinmay A. Jain, Ankit Verma, Ashish Kumar, P. Vamshi Krishna, **M.V. Kartikeyan**, S. Illy, E. Borie, M. Thumm, "*Design of triode–type magnetron injection gun for 460 GHz, 50–100 W, gyrotron for medical spectroscopy*," 36th International Conference on Infrared, Millimeter, and THz Waves (IRMMW-THz 2011), October 2–7, 2011, Houston, US.

72. P. Vamshi Krishna, Chinmay A. Jain, Ankit Verma, Ashish Kumar, **M.V. Kartikeyan**, M. Thumm, "*Design studies of a quasi–optical mode converter and output system for a second harmonic sub terahertz gyrotron*," 36th International Conference on Infrared, Millimeter, and THz Waves (IRMMW-THz 2011), October 2–7, 2011, Houston, US.

73. **M.V. Kartikeyan**, E. Borie, M. Thumm, "*Recent Results in Collaborative Studies on the Design of Application Specific Gyrotrons*," Int. Vac. Elec. Conference (IVEC–2011), February 21–24, 2011, Bangalore, India.

74. P. Vamshi Krishna, **M.V. Kartikeyan**, M. Thumm, "*Mode Selection and Cavity Design Studies for a 95 GHz, 100 kW, CW Gyrotron*," Int. Vac. Elec. Conference (IVEC–2011), February 21–24, 2011, Bangalore, India.

75. P. Vamshi Krishna, **M.V. Kartikeyan**, M. Thumm, "*Design Studies of the Output System of a 95 GHz, 100 kW, CW Gyrotron*," Int. Vac. Elec. Conference (IVEC–2011), February 21–24, 2011, Bangalore, India.

76. Chinmay A. Jain, Ankit Verma, Ashish Kumar, **M.V. Kartikeyan**, E. Borie, M. Thumm, "*Design Studies of a 460 GHz, 30–50 W, CW Second Harmonic Gyrotron*," Int. Vac. Elec. Conference (IVEC–2011), February 21–24, 2011, Bangalore, India.

77. K. Shiva Sai Prasad, Shiv Aasheesh Singh, S.S. Shanmukha, R. Seshadri, **M. V. Kartikeyan**, "*Design of a* $TM_{01}TE_{11}$ *Circular Bend Mode Converter operating at 3 GHz*," Int. Vac. Elec. Conference (IVEC–2011), February 21–24, 2011, Bangalore, India.

78. Nischey Grover, Satish Gajawada, **M.V. Kartikeyan**, "*Design Optimization of Non Linear Tapers for High Power Gyrotrons Using Hybrid Space Mapping Techniques*," Int. Vac. Elec. Conference (IVEC–2011), February 21–24, 2011, Bangalore, India.

79. Ashwini K. Arya, A. Patnaik, **M.V. Kartikeyan**, "*Design Study of some specific DGS slots and their integration with microstrip stacked patch antennas*," Int. Conf. on Microwaves, Antenna, Propagation & Remote Sensing, (ICMARS–2010), December 14–17, 2010, Jodhpur, India.

80. Ashwini K. Arya, A. Patnaik and **M.V. Kartikeyan**, "*Design Study of Stacked Patch Antennas with Specific Defected Ground Structure*," Int. Conf. on Microwaves, Antenna, Propagation & Remote Sensing, (ICMARS–2010), December 14–17, 2010, Jodhpur, India.

81. Arjun Kumar and **M.V. Kartikeyan**, "*A Novel Compact Band Pass Edge Coupled Microstrip Filter with DGS*," Int. Conf. on Microwaves, Antenna, Propagation & Remote Sensing, (ICMARS–2010), December 14–17, 2010, Jodhpur, India.

82. Vamsi Krishna, **M.V. Kartikeyan**, M. Thumm, "*Mode Selection and Launcher Design of a 95 GHz, 100 kW, CW Gyrotron*," Int. Conf. on Microwaves, Antenna, Propagation & Remote Sensing, (ICMARS–2010), December 14–17, 2010, Jodhpur, India.

83. Jagannath Malik and **M.V. Kartikeyan**, "*Design Study of Proximity Coupled Broadband Triangular Patch Antenna*," Int. Conf. on Microwaves, Antenna, Propagation & Remote Sensing, (ICMARS–2010), December 14–17, 2010, Jodhpur, India.

84. **M.V. Kartikeyan**, "*Studies on specific gyrotrons at IITR – A close perspective*,"Nat. Conf. Vac. Elec. Devices and Applications, Moradabad, November 18–19, 2010.

85. Divya Goel, **M.V. Kartikeyan**, and Rajdeep Niyogi, "*Optimal design of Microstrip Antenna*," International Conference on Advances in Communication Network and Computing (CNC 2010), October 4–5, 2010, Calicut, India.

86. **M.V. Kartikeyan**, "Gyrotrons: *Millimeter wave sources for thermonuclear fusion reactors and other ISM applications*," Proc. National Conferences on Recent Trends in Microwave & Millimeter Wave Technologies–2010, October 4–5, 2010, Dehradun, India.

87. Arjun Kumar, A.K.Arya, **M.V. Kartikeyan**, Rashid Mahmood, "Study of DGS Low Pass Filter using DGS Array," Proc. National Conferences on Recent Trends in Microwave & Millimeter Wave Technologies–2010, October 4–5, 2010, Dehradun, India.

88. J.P.Chauhan, D.S. Nagarkoti, R. Gauri, **M.V. Kartikeyan**, "Design and Simulation of Broadband Low Noise Figure Amplifier for Base Station Wireless Applications Using Hetro–Junction Field Effect Transistor," Proc. National Conferences on Recent Trends in Microwave & Millimeter Wave Technologies–2010, October 4–5, 2010, Dehradun, India.

89. Ragini Jain, **M.V. Kartikeyan**, "Design Studies of a 100 kW, 60 GHz CW Gyrotron for Plasma Diagnostics," IRMMW–THz Conference, Rome, Italy, September 2010.

90. Ankur Aggarwal, **M.V. Kartikeyan**, "Design of Sierpinski Carpet Antenna using two different feeding mechanisms for WLAN applications," IRMMW–THz Conference, Rome, Italy, September 2010.

91. Ashwini K. Arya, Amalendu Patnaik, **M.V. Kartikeyan**, "On the Size Reduction of Microstrip Antennas with DGS," IRMMW–THz Conference, Rome, Italy, September 2010.

92. Harshvardhan Tiwari, **M.V. Kartikeyan**, "*Design studies of stacked U–slot microstrip patch antenna for dual–band operation*," IRMMW–THz Conference, Rome, Italy, September 2010.

93. Divya Goel, **M.V. Kartikeyan**, Rajdeep Niyogi, Ankush Mittal, "Evolutionary Algorithms for the Design of Specific Microwave/Millimeter Wave Components," IRMMW–THz Conference, Rome, Italy, September 2010.

94. Ragini Jain, **M.V. Kartikeyan**, "Mode competition and cavity design of a 60 GHz, 100 kW, CW gyrotron," Nat. Conf. on Advances in Microwave Communication, Devices and Applications, 16–17 February 2010, Jaipur, India.

95. Ragini Jain, Jagadish C. Mudiganti, **M.V. Kartikeyan**, "Initial Design Studies of a 60 GHz, 100 kW Gyrotron for Plasma Diagnostics," Nat. Sym. on Vacuum Tech. and its

Applications to Electronic Devices and Systems (IVSNS 2009), November 11-13, 2009, CEERI, Pilani, India.

96. Jagadish C. Mudiganti, **M.V. Kartikeyan**, "*Design of Magnetron Injection Guns for Application Specific Gyrotrons: Particle Studio Simulations*," Nat. Sym. on Vacuum Tech. and its Applications to Electronic Devices and Systems (IVSNS 2009), November 11-13, 2009, CEERI, Pilani, India.

97. Ashwini K. Arya, **M.V. Kartikeyan**, A. Patnaik, "*Studies on Specific Microstrip Antenna with Defected Ground Structures for Wireless Communications*" Nat. Sym. on Vacuum Tech. and its Applications to Electronic Devices and Systems (IVSNS 2009), November 11-13, 2009, CEERI, Pilani, India.

98. Ragini Jain, **M.V. Kartikeyan**, M. Thumm, "*Design studies of a quasi–optical launcher for a 170 GHz, 200–250 kW gyrotron*," 34th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz 2009), Busan, Korea, September 21–25, 2009.

99. **M.V. Kartikeyan**, Jagadish C. Mudiganti, E. Borie, M. Thumm "*Resonator studies of a 170 GHz, 200-250 kW, long–pulse gyrotron*," 34th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz 2009), Busan, Korea, September 21–25, 2009.

100. Jagadish C. Mudiganti, **M.V. Kartikeyan**, M. Thumm, "*Design of magnetron injection guns - A 3D simulation approach*," 34th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz 2009), Busan, Korea, September 21–25, 2009.

101. **M.V. Kartikeyan**, "*Studies on specific high power gyrotrons at IITR – Recent results and future plans*," Proc. 5th IAEA Technical Meeting on ECRH Physics and Technology for Large Fusion Devices, 18–20 February 2009, Gandhinagar, India.

102. S. Arun Kumar, **M.V. Kartikeyan**, "*Proximity coupled dual frequency microstrip antenna for WLAN*," National Symposium on Vacuum Elect. Devices & Applications (VEDA–2009), IT–BHU, Varanasi, January 8–10, 2009.

103. N. C. Chauhan, **M.V. Kartikeyan**, A. Mittal, "*Design of critical output components of high power gyrotrons using particle swarm optimization*," National Symposium on Vacuum Elect. Devices & Applications (VEDA–2009), IT–BHU, Varanasi, January 8–10, 2009.

104. T. J. Nagalakshmi, **M.V. Kartikeyan**, "*Initial design studies of a 170 GHz, 250 kW, CW gyrotron*," National Symposium on Vacuum Elect. Devices & Applications (VEDA–2009), IT–BHU, Varanasi, January 8–10, 2009.

105. Ragini Jain, Arun Kumar, **M.V. Kartikeyan**, "*Design studies of a quasi-optical launcher for a 127.5 GHz, 1.0-1.3 MW, long-pulse start-up gyrotron for ITER*," National Symposium on Vacuum Elect. Devices & Applications (VEDA–2009), IT–BHU, Varanasi, January 8–10, 2009 (***Awarded Best Student Paper to Ms. Ragini Jain***).

106. Ashwini K. Arya, **M.V. Kartikeyan**, A. Patnaik, "*Neural network model for analysis of DGS structure*," National Symposium on Vacuum Elect. Devices & Applications (VEDA–2009), IT–BHU, Varanasi, January 8–10, 2009.

107. Jagadish C. Mudiganti, M.V. Kartikeyan, "A 3D Simulation of Triode Type Magnetron Injection Gun for 42 GHz, 200 kW CW Gyrotron," National Symposium on Vacuum Elect. Devices & Applications (VEDA–2009), IT–BHU, Varanasi, January 8–10, 2009.

108. **M. V. Kartikeyan**, "Recent progress on the design studies of high power gyrotrons at IITR (invited Talk)," National Symposium on Vacuum Elect. Devices & Applications (VEDA–2009), IT–BHU, Varanasi, January 8–10, 2009.

109. N. C. Chauhan, B. R. Vasista, M. S. Reddy, **M.V. Kartikeyan**, A. Mittal, "*Modified bacterial foraging optimization and its application for the design of a nonlinear taper*," Int. Conf. Advances in Computing Technologies (ICACT 2008), Hyderabad, December 26–27, 2008.

110. Basudeb Ghosh, Sachendra N. Sinha, **M.V. Kartikeyan**, "*Fractal Apertures in Waveguide and Conducting Screens*", Proceedings of TENCON 2008, November 2008, Uni. of Hyderabad, India.

111. N. Chauhan, **M.V. Kartikeyan**, L.M. Joshi, A. Mittal, "*Design of RF window using multi–objective particle swarm optimization*," Int. Conf. Recent Advances in Microwave Theory and Applications (MICROWAVE-08), 21–24 November 2008, Department of Physics, Uni. of Rajasthan Jaipur, India.

112. Ashwini K. Arya, **M.V. Kartikeyan**, A.Patnaik, "*Efficiency Enhancement of Microstrip Patch Antenna with Defected Ground Structure*," Int. Conf. Recent Advances in Microwave Theory and Applications (MICROWAVE-08), 21–24 November 2008, Department of Physics, Uni. of Rajasthan Jaipur, India.

113. B. Ghosh, S.N. Sinha, **M.V. Kartikeyan**, "*Fractal Apertures in Waveguides and Conducting Screens*," TENCON 2008, Uni. Hyderabad, November 18-21, 2008.

114. **M.V. Kartikeyan**, "*Close perspective of a successful collaboration*," Colloquium for Humboldt Fellows and Awardees in the Engineering Sciences in India, New Delhi, 31 October 31 – 2 November, 2008, India.

115. **M.V. Kartikeyan**, E. Borie, G. Gantenbein, B. Piosczyk, M.K. Thumm, "*Studies on a 170 GHz, 1.0–1.3 MW, CW conventional cavity gyrotron*," 33rd IRMMW–THz Conference, Cal. Tech., California–US, September 15–19, 2008.

116. **M.V. Kartikeyan**, Arun Kumar, E. Borie, M.K. Thumm, "*Studies on a 127.5 GHz, 1.0–1.3 MW, CW Longpulse Start–up Gyrotron for ITER*," 35th IEEE Int. Conf. on Plasma Science (ICOPS2008), June 15–19, 2008, Karlsruhe, Germany.

117. **M.V. Kartikeyan**, Arun Kumar, E. Borie, S. Illy, B. Piosczyk, M.K. Thumm, "*Design Studies of a 42 GHz, 200–250 kW, CW/Longpulse Gyrotron*," 35th IEEE Int. Conf. on Plasma Science (ICOPS2008), June 15–19, 2008, Karlsruhe, Germany.

118. **M.V. Kartikeyan**, "*High power gyrotrons for thermonuclear fusion and other application*," Plenary talk delivered in the 22nd National Symposium on Plasma Science & Technology PLASMA–2007, 6–10 December 2007, Ahmedabad, India.

119. Arun Kumar, **M.V. Kartikeyan**, E. Borie, M.K. Thumm, "*Design Studies on a 1.0-1.3 MW, Long Pulse, Start–up Gyrotron for ITER*," 22nd National Symposium on Plasma Science & Technology PLASMA–2007, 6–10 December 2007, Ahmedabad, India.

120. Arun Kumar, S. Kamakshi, Narendra Chauhan, Stefan Illy, E. Borie, B. Piosczyk, **M.V. Kartikeyan**, M.K. Thumm, "*Design Studies of a 42 GHz, 200 kW, CW Gyrotron Operating in the* $TE_{0,3}$ *Mode with Axial Output Collection*," 22nd National Symposium on Plasma Science & Technology PLASMA–2007, 6–10 December 2007, Ahmedabad, India.

121. Narendra Chauhan, S. Kamakshi, Arun Kumar, Ankush Mittal, Dietmar Wagner, **M.V. Kartikeyan**, M.K. Thumm, "*Design and Optimization of Non–linear Tapers for High Power Gyrotrons*," 22nd National Symposium on Plasma Science & Technology PLASMA–2007, 6–10 December 2007, Ahmedabad, India.

122. Arun Kumar, **M.V. Kartikeyan**, E. Borie, M. Thumm, "*Studies on a 120 GHz, 1.0 MW, longpulse gyrotron for plasma start–up in ITER*," 32nd IRMMW–THz Conference, UK, September 2007.

123. **M.V. Kartikeyan**, E. Borie, M. Thumm, "*Design studies on a 110 GHz, 1.0–1.5 MW, CW gyrotron*," 32nd IRMMW–THz Conference, UK, September 2007.

124. B.Ghosh, Sachendra N. Sinha, **M.V. Kartikeyan**, "*Investigations on a Fractal shaped Aperture in a Rectangular Waveguide*", National Symposium on Antennas and Propagation, 14-16 December, 2006, CUSAT, Cochin, India (***Awarded Best Student Paper to Mr. B. Ghosh***).

125. Solomon Raju Kota, Archana Kokkula, Durga Toshniwal, **M.V. Kartikeyan**, R. C. Joshi and Chandra Shekhar "*Parameterized Module Scheduling Algorithm for Reconfigurable Computing Systems*," 15th International Conference on Advanced Computing and Communications (ADCOM 2007), IIT Gowhathi, 18th -21st December 2007.

126. Solomon Raju Kota, Chandra Shekhar, **M.V. Kartikeyan**, and R.C. Joshi, "*System–Level Architectural Design of Reconfigurable Computing Systems: Issues and Solutions*," International Conference on Recent Advancements and Applications of Computer in Electrical Engineering (RACE-2007), March 24–25, 2007, Bikaner, Rajasthan, India (Accepted).

127. Solomon Raju Kota, Sridhar Kokkandla, R. S. Anand, Chandra Shekhar, **M.V. Kartikeyan**, and R.C. Joshi, "*Design of Parameterized Finite Impulse Response (FIR) Filter*," International conference on Intelligent Systems & Networks (IISN–2007), 23–25 Feb, 2007, Jagadri, Haryana, India

128. Solomon Raju Kota, Chandra Shekhar, **M.V. Kartikeyan**, R.C. Joshi, "*Behavioral modeling and Simulation of an instruction set of Reconfigurable Application Specific Instruction–set Processor for Software Defined Radio*," International Conference on Advances in Electronics & Communication Technology 15-16 December 2006, Nawanshahr, Punjab, India.

129. K. Solomon Raju, **M.V. Kartikeyan**, R. C. Joshi and Chandra Shekhar, "*Issues of Reconfigurable Computing Systems*," National Conference on Electronics Circuits and Communication Systems (ECCS-2006),. pp. 53–57, February 2006, TIET, Patiala, India.

130. K. Solomon Raju, **M.V. Kartikeyan**, R C Joshi and Chandra Shekhar, ‘Reconfigurable Computing Systems Design: Issues at System–Level Architectures," The 5th Annual Inter Research Institute Student Seminar in Computer Science (IRISS 2006, January 2006), IITM, Chennai, India.

131. **M.V. Kartikeyan**, "*Gyrotrons for National Fusion Programme: ITER & Beyond*," Invited talk, PSSI–IPR Workshop on National Fusion Programme: ITER & Beyond, November 8–10, 2006, Institute for Plasma Research, Gandhinagar, India.

132. **M.V. Kartikeyan**, Arun Kumar, E. Borie, S. Illy, B. Piosczyk, M.K. Thumm, "*Progress on the IHM–IITR Collaborative Research on the Design of Application Specific Gyrotrons*," National Symposium on Vac. Elect. Devices & Applications–2006, October 11–13, 2006, CEERI, Pilani, India.

133. **M.V. Kartikeyan**, K. Swathi, Arun Kumar, "*Initial Design Studies of a 42 GHz, 200 kW, CW Gyrotron*," National Symposium on Vac. Elect. Devices & Applications–2006, October 11–13, 2006, CEERI, Pilani, India.

134. Arun Kumar, **M.V. Kartikeyan**, E. Borie, M.K. Thumm, "*Mode Selection for 120 GHz, 1.0–1.5 MW, CW, Gyrotron For Plasma Startup in ITER*," National Symposium on Vac. Elect. Devices & Applications–2006, October 11–13, 2006, CEERI, Pilani, India.

135. Arun Kumar, **M.V. Kartikeyan**, "*A circularly polarized stacked patch aperturecoupled microstrip antenna for 2.6 GHz band*," National Symposium on Vac. Elect. Devices & Applications–2006, October 11–13, 2006, CEERI, Pilani, India.

136. K. Swathi, Arun Kumar, N.K. Agarwal, **M.V. Kartikeyan**, "*Design and optimization of circularly polarized microstrip antenna for WLAN applications*," National Symposium on Vac. Elect. Devices & Applications–2006, October 11–13, 2006, CEERI, Pilani, India.

137. Lovesh Patni, Amit Gupta, Rakesh Yadav Narendra Chauhan, Ankush Mittal, **M.V. Kartikeyan**, "*Design and optimization of microwave components using genetic algorithms*," National Symposium on Vac. Elect. Devices & Applications–2006, October 11–13, 2006, CEERI, Pilani, India.

138. K.Solomon Raju, Chandra Shekhar, **M.V. Kartikeyan**, R.C. Joshi, "*Behavioral modeling of a RASIP for software–defined radio*," National Symposium on Vac. Elect. Devices & Applications–2006, October 11–13, 2006, CEERI, Pilani, India.

139. Lovesh Patni, Amit Gupta, Rakesh Yadav, Narendra Chauhan, Ankush Mittal, **M.V. Kartikeyan**, "*AnDOCs-An Iterative Engine using GA Optimization for Design of Microstrip Antenna*", Proc. National Conference on Recent Advancements in Microwave Techniques and Applications, pp.49–53, Oct 2006, Dept.of Physics, University of Rajsthan, Jaipur, India.

140. GP Rao, Kshitiz Agarwal, **M.V. Kartikeyan**, M. Thumm, "*Design of multiple beam forming network for switched beam antenna system with E–shaped microstrip antenna*," 31st IRMMW/THz Conference, China, September 2006.

141. Kshitiz Agarwal, GP Rao, **M.V. Kartikeyan**, M. Thumm, "*Wideband dual feed electromagnetically coupled circularly polarized microstrip patch antenna*," 31st IRMMW/THz Conference, China, September 2006.

142. **M.V. Kartikeyan**, E. Borie, M. Thumm, "*Design studies of a 250 GHz, 50–100 W, CW second harmonic gyrotron*," 31st IRMMW/THz Conference, China, September 2006.

143. **M.V. Kartikeyan**, E. Borie, B. Piosczyk, M. Thumm, "*Design concept of gyrotrons for next generation plasma fusion reactors and spectroscopy*," Workshop on Electron Cyclotron Masers for Fusion Engineering and other Applications (EFEA–2006), April 18, 2006, Indian Institute of Technology Roorkee, India.

144. **M.V. Kartikeyan**, G. Singh, E. Borie, B. Piosczyk, M. Thumm, "*An 84 GHz, 500 kW, CW Gyrotron*," German Microwave Conference - GeMiC 2006, Universitt Karlsruhe (TH), March 28–30, 2006, Germany.

145. **M.V. Kartikeyan**, E. Borie, M. Thumm, "*Studies on a 250 GHz, 50 W, CW Second Harmonic Gyrotron for Spectroscopy*," German Microwave Conference - GeMiC 2006, Universität Karlsruhe (TH), March 28–30, 2006, Germany.

146. Kshitiz Agarwarl, G.P. Rao, **M.V. Kartikeyan**, M. Thumm, "*A proximity fed circularly polarized microstrip patch antenna with a cross slot in the ground plane*," German Microwave Conference - GeMiC 2006, Universität Karlsruhe (TH), March 28–30, 2006, Germany.

147. G.P. Rao, Kshitiz Agarwarl, **M.V. Kartikeyan**, M. Thumm, "*Wideband single patch E-shaped compact microstrip antenna for high speed local area networks*," German Microwave Conference - GeMiC 2006, Universität Karlsruhe (TH), March 28–30, 2006, Germany.

148. **M.V. Kartikeyan**, "*Design of high power gyrotron and its applications*," National workshop on Gyrotron and its Applications, Institute for Plasma Research, Gandhinagar, 20–22 February, 2006, India.

149. Y. Krishna Roy, **M.V. Kartikeyan**, Ankush Mittal, Nitin Kaushik, "*SVM Based modeling and optimization for microwave components*," Int. Conf. Emerging Application of IT (EAIT-2006), February 10-11, Kolkata, India.

150. **M.V. Kartikeyan**, G. Singh, E. Borie, B. Piosczyk, M. Thumm, "*Design studies of an 84 GHz, 500 kW CW gyrotron*," To the 30th IRMMW-THz Conference 2005, USA.

151. Arun Kumar, **M.V. Kartikeyan**, "*An aperture coupled circularly polarized rectangular microstrip antenna with slits*," Electro–2005, February 3–5, BHU, Varanasi, India.

152. **M.V. Kartikeyan**, G. Singh, E. Borie, B. Piosczyk, M. Thumm, "*A 500 kW, 84 GHz, conventional cavity gyrotron oscillator*," Electro–2005, February 3–5, BHU, Varanasi, India (*Invited Talk*).

153. **M.V. Kartikeyan**, B. Piosczyk, M. Thumm, "*Feasibility of a super power coaxial cavity gyrotron at 170 GHz for the next generation ECRH applications*," Asia–Pacific Microwave Conference 2004 (APMC–2004), December 15–18, New Delhi, India.

154. OS Lamba, B. Piosczyk, E. Borie, G. Dammertz, **M.V. Kartikeyan**, M. Thumm, "*Design and analysis of MIG diode gun for 200 kW, CW, 42 GHz gyrotron*," Asia–Pacific Microwave Conference 2004 (APMC–2004), December 15–18, New Delhi, India.

155. **M.V. Kartikeyan**, B. Piosczyk, M. Thumm, "*Feasibility of a 140 GHz, 2–3 MW, CW Coaxial Gyrotron with Dual Beam Output*," 29th International Conference on Infrared and Millimeter Waves, Uni. Karlsruhe, Germany, September 2004.

156. G. Singh, BN Basu, **M.V. Kartikeyan**, M. Thumm, "*A Magnetron like Interaction Structure for Gyro-TWTs*," 29th International Conference on Infrared and Millimeter Waves, Uni. Karlsruhe, Germany, September 2004.

157. M. Thumm, J. Jin, **M.V. Kartikeyan**, B. Piosczyk, T. Rzesnicki, "*Design of a 170 GHz, 4 MW coaxial super gyrotron with dual-beam output*," 13th Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, Russia, 2004.

158. **M.V. Kartikeyan**, E. Borie, B. Piosczyk, M. Thumm, "*Towards a 170 GHz Super Power Coaxial Cavity Gyrotron*," 15th Joint Russian–German STC Workshop on ECRH and Gyrotrons, June 25 – July 1, Germany, 2003.

159. B. Piosczyk, H. Budig, G. Dammertz, O. Drumm, S. Illy, J. Jin, **M.V. Kartikeyan**, W. Leonhardt, M. Schmid, M. Thumm, X. Yang, D. Wagner, O. Dumbrajs, V. Manuilov, A. Pavelyev, "*A Coaxial Cavity gyrotron – recent results and future plans*," 15th Joint Russian–German STC Workshop on ECRH and Gyrotrons, June 25 – July 1, Germany, 2003.

160. K. Koppenburg, A. Arnold, E. Borie, G. Dammertz, O. Drumm, **M.V. Kartikeyan**, B. Piosczyk, M. Thumm, X. Yang (FZK), "*Recent results of the 1 MW multifrequency gyrotron development at FZK*," 15th Joint Russian-German STC Workshop on ECRH and Gyrotrons, June 25 – July 1, Germany, 2003.

161. **MV Kartikeyan**, B. Piosczyk, M. Thumm, "*In Quest of a 170 GHz, Coaxial Super Gyrotron*," 28th International Conference on Infrared and Millimeter Waves (IRMMW 2003), September 2003, Japan.

162. M. Thumm, A. Arnold, E. Borie, G. Dammertz, O. Drumm, R. Heidinger, **M.V. Kartikeyan**, K. Koppenburg, A. Meier, B. Piosczyk, D. Wagner, X. Yang, "*Development of Frequency Step Tunable 1 MW Gyrotrons in D–Band*," 4th IEEE International Vacuum Electronics Conference (IVEC 2003), May 28–30, 2003, Seoul, Korea.

163. **M.V. Kartikeyan**, AB Pavelyev, B. Piosczyk, M. Thumm, "*A Step Towards a 170 GHz, 5 MW Coaxial Super Gyrotron*," 4th IEEE International Vacuum Electronics Conference (IVEC 2003), May 28–30, 2003, Seoul, Korea.

164. B. Piosczyk, S. Albetri, A. Arnold, E. Borie, H. Budig, G. Dammertz, O. Dumbrajs, O. Drumm, V. Erckmann, E. Giguet, T. Goodman, R. Heidinger, J. P. Hogge, S. Illy, **M.V. Kartikeyan**, W. Kasparek, K. Koppenberg, M. Kuntze, G. LeCloarec, C. Lievin, R. Magne, G. Michel, G. Mller, M. Thumm, M. Q. Tran, and X. Yang, "*A 2 MW, CW, 170 GHz Gyrotron for ITER*," 19th IAEA Fusion Energy Conference, October 14–19, 2002, Lyon, France.

165. BP Piosczyk, A Arnold, H Budig, G Dammertz, O Dumbrajs, O Drumm, **M.V. Kartikeyan**, M Kuntze, M Thumm, and X Yang, "*A 2 MW, CW coaxial cavity gyrotron*," 5th International Workshop on Strong Microwave Plasmas, August 1–9, 2002, Nizhny Novgorod, Russia.

166. BP Piosczyk, A Arnold, H Budig, G Dammertz, O Dumbrajs, O Drumm, **M.V. Kartikeyan**, M Kuntze, M Thumm, and X Yang, "*Towards a 2 MW, CW, 170 GHz coaxial cavity gyrotron for ITER*," 22nd Symposium on Fusion Technology (SOFT 2002), September 9–13, 2002, Helsinki, Finland.

167. E Borie, K Koppenburg, O Drumm, A Arnold, S Illy, **M.V. Kartikeyan**, B Piosczyk, X Yang, G Dammertz, and M Thumm, "*A multifrequency step–tunable gyrotron at FZK*," 2nd International Workshop on Far–Infrared Technologies, September 12–13, 2002, Fukui University, Japan.

168. **M.V. Kartikeyan**, E Borie, B Piosczyk, and M Thumm, "*A 42 GHz, 200 kW second harmonic gyrotron*," 27th International Conference on Infrared and Millimeter Waves (IRMMW 2002), September 22–26, 2002, San Diego, CA, USA.

169. K Koppenburg, A Arnold, E Borie, G Dammertz, O Drumm, **M.V. Kartikeyan**, B Piosczyk, M Thumm, and X Yang, "*Design of a multifrequency high power gyrotron at FZK*," 27th International Conference on Infrared and Millimeter Waves (IRMMW 2002), September 22–26, 2002, San Diego, CA, USA.

170. BP Piosczyk, A Arnold, H Budig, G Dammertz, O Dumbrajs, O Drumm, M.V. Kartikeyan, M Kuntze, M Thumm, and X Yang, "*Experimental and technical requirements for a 2 MW, CW coaxial cavity gyrotron*," 27th International Conference on Infrared and Millimeter Waves (IRMMW 2002), September 22–26, 2002, San Diego, CA, USA.

171. BP Piosczyk, A Arnold, H Budig, G Dammertz, O Dumbrajs, O Drumm, **M.V. Kartikeyan**, M Kuntze, M Thumm, X Yang, O Dumbrajs "*A 2 MW coaxial cavity gyrotron – experimental results and data for a technical design*," 14th Joint Russian–German Workshop on ECRH and Gyrotrons, June 25–30 at Nizhny Novgorod & July 1 at Moscow, 2002, Russia.

172. K Koppenburg, A Arnold, E Borie, G Dammertz, O Drumm, R Heidinger, **M.V. Kartikeyan**, B Piosczyk, M Thumm, and X Yang, "*Design of a 1 MW multifrequency gyrotron at FZK*," 14th Joint Russian–German Workshop on ECRH and Gyrotrons, June 25–30 at Nizhny Novgorod & July 1 at Moscow, 2002, Russia.

173. **M.V. Kartikeyan**, AK Sinha, SN Joshi, and M Thumm, "*A coaxially loaded helical slow–wave structure for TWTs*," 3rd IEEE International Vacuum Electronics Conference (IVEC 2002), April 23–25, 2002, Monterey CA, USA.

174. E. Borie, K. Koppenburg, S. Illy, O. Drumm, **M.V. Kartikeyan**, B. Piosczyk, X. Yang, G. Dammertz, and M. Thumm, "*Possibilities for multifrequency operation of a gyrotron at FZK*," 26th International Conference on Infrared and Millimeter Waves, September 2001, Toulouse, France.

175. OS Lamba, B. Piosczyk, E. Borie, G. Dammertz, **M.V. Kartikeyan**, and M Thumm, "*Characterization of MIG diode gun for 200 kW, CW, 42 GHz gyrotron*," Symposium on Advances in Electronics (Electro–2001), January 4–6, 2001, BHU, Varanasi, India.

176. **M.V. Kartikeyan**, "*Design of Specific Gyrotrons*," Invited talk at the Nat. workshop on Microwave and Millimeter Wave Active Devices and Their Applications, December 15–16, 2000, CEERI, Pilani, India.

177. P. –K. Liu, E. Borie, and **M.V. Kartikeyan**, "*Design of a 24 GHz 30 kW technology gyrotron operating at the second harmonic*," 25th International Conference on Infrared and Millimeter Waves, September 2000, Biejing, China.

178. **M.V. Kartikeyan**, AK Sinha, HN Bandopadhyay, SN Joshi, E. Borie, and M. Thumm, "*A novel interaction structure with helical grooves for high power TWTs*," Conference Digest of the 24th International Conference on Infrared and Millimeter Waves, p. TU–E6, September 5–10, 1999, Monterey, California, USA.

179. **M.V. Kartikeyan**, E. Borie amd M. Thumm, "*On the possibility of a 1.5–2 MW, CW conventional gyrotron at 140 GHz*," Conference Digest of the 24th International Conference on Infrared and Millimeter Waves, p. F–A7, September 5–10, 1999, Monterey, California, USA.

180. **M.V. Kartikeyan**, E. Borie, et al., "*Design of a 42 GHz, 200 kw CW gyrotron with radial quasi–optical output coupling*," Conference Digest of the 24th International Conference on Infrared and Millimeter Waves, p. W–A4, September 5–10, 1999, Monterey, California, USA.

181. **M.V. Kartikeyan**, E. Borie and M. Thumm, "*Feasibility study for a 2 MW, CW conventional cavity gyrotron at 140 GHz*," 11th Joint Russian–German Meeting on ECRH and Gyrotrons, Karlsruhe, Germany, June 23–29, 1999.

182. OS Lamba, S. Chander, A. Sharma, VVP Singh, LM Joshi, **M.V. Kartikeyan**, NC Gupta and HN Bandopadhyay, "*Processing and performance evaluation of GCTM for 5 MW Klystron*," Indian Vac. Soc. National Sym. (IVSNS–98), September 21–23, 1998, CEERI, Pilani, India.

183. **M.V. Kartikeyan**, VVP Singh and HN Bandopadhyay, "*RF Window design of a 200 kW CW 42 GHz Gyrotron operating at $TE_{-5,2}$ mode for CEERI*," Indian Vac. Soc. National Sym. (IVSNS–98), September 21–23, 1998, CEERI, Pilani, India.

184. **M.V. Kartikeyan**, E. Borie, B. Piosczyk and HN Bandopadhyay, "*Resonator studies of a 42 GHz, 200 kW CW gyrotron operating at $TE_{-5,2}$ mode for CEERI*," Indian Vac. Soc. National Sym. (IVSNS–98), September 21–23, 1998, CEERI, Pilani, India.

185. **M.V. Kartikeyan**, AK Sinha, HN Bandopadhyay and DS Venkateswarlu, "*An Improved Approach for the Simulation of Radial Thickness of Helix for Practical TWTs*," Proceedings of the International Conference on Microwave and Millimeter Wave Technology (ICMMT – 98), August 18–20, 1998, Beijing, China.

186. S Chander, OS Lamba, VVP Singh, A Sharma, LM Joshi, **M.V. Kartikeyan**, NC Gupta and HN Bandopadhyay, "*Design and Development of Experimental Gun–Collector Test Module for 5 MW Klystron*," Proc. National Symposium on Vacuum Science & Technology and Power Beams, vol. 2, pp. c89–c96, November 19–21, Bombay, 1997.

187. VVP Singh, S Chander, A Sharma, **M.V. Kartikeyan**, OS Lamba, LM Joshi, NC Gupta, and HN Bandopadhyay, "*Computer–Aided Design of Pierce Convergent Electron Gun for a High Power Klystron*," Proc. VIII Asia–Pasific Microwave Conference, vol. 3, pp. 785–788, December 17–20, New Delhi, 1996.

188. B. Piosczyk, E. Borie, O. Braz, G. Dammertz, C.T. Iatrou, S. Illy, S. Kern, M. Kuntze, **M.V. Kartikeyan**, G. Mitchel, A. Möbius, and M. Thumm, "*Advanced High Power Gyrotrons for ECW Application*," 19th Symp. On Fusion Technology (SOFT), Lisbon, Portugal, 16–20 September, 1996.

189. **M.V. Kartikeyan**, et al, "*On the Loss Estimation of a Radially Thick Helix*," Proc. Recent Advances in Microwaves and Lightwaves, pp. 425–430, December 4–6, New Delhi, 1995.

190. **M.V. Kartikeyan**, et al, "*Computer Aided Modelling of Narrow–Gap reentrant Cavities*," Proc. 4th International Symposium on Recent Advances in Microwave Technology ISRAMT–93), pp.148–151, New Delhi, 1993.

191. **M.V. Kartikeyan**, et al, "*On the transmission line circuit modelling of helix–coupled vane structure for CFAs*," Proc. Symposium on Microwave Power Tubes and their Applications (MIPTA–90), pp. 5.4–5.5, Sept. 21–23, 1990, CEERI, Pilani, India.

Technical Reports / Thesis

1. Arun Kumar, Kamakshi S., **M.V. Kartikeyan**, "*Design Studies of a Triode Type MIG for 42 GHz, 200 kW, CW Gyrotron*," Technical Report, Millimeter Wave Laboratory (DST sponsored project lab), Department of Electronics & Computer Engineering, Indian Institute of Technology Roorkee, Roorkee 247 667, India, August 2007.

2. **M.V. Kartikeyan**, E. Borie, M.K. Thumm, "*A 250 GHz, second harmonic gyrotron for spectroscopy*," Technical Report, Forschungszentrum Karlsruhe, Germany, 2007.

3. **M.V. Kartikeyan**, S. Illy, and E. Borie, "*User's manual for the BFCRAY code*," Internal Report, FZK, February 2000.

4. **M.V. Kartikeyan** and E. Borie, "*Calculations of an electron gun for a 42 GHz, 200 kW, gyrotron operating in the $TE_{5,2}$ mode using the BFCRAY code*," Internal Report, FZK, December 1999.

5. **M.V. Kartikeyan**, "*WINGYRSD – A Window Analysis Computer code for High Power Gyrotrons (For Single Disc Windows)*," Computer Code Manual, CEERI, Pilani, India, 1997.

6. **M.V. Kartikeyan** and B. Piosczyk, "*Feasibility Studies on the Design of a 42 GHz 200 kW CW Gyrotron*," Interner Bericht F.130.0020.012/C, Forschungszentrum Karlsruhe, Germany, September 1996.

7. **M.V. Kartikeyan**, "*Feasibility Studies on the Design of High Power CW Gyrotrons for CEERI*," Interner Bericht F.130.0020.012/B, Forschungszentrum Karlsruhe, Germany, September 1996.

8. **M.V. Kartikeyan** and B. Piosczyk, "*Design of a Two–Stage Depressed Collector for High Power Gyrotron*," Interner Bericht F.130.0021.012/A, Forschungszentrum Karlsruhe, Germany, September 1996.

9. **M.V. Kartikeyan**, AK Sinha, and HN Bandopadhyay, "*An Efficient Theoretical Model for the Design, Analysis and Modelling of Helical Slow-wave Structures for Practical TWTs*," Internal Report No. CEERI/MWT/RR–2/95–96, CEERI, Pilani, India, 1995.

10. **M.V. Kartikeyan**, AK Sinha, and HN Bandopadhyay, "*A Study of Radially Thick Helix*," Internal Report No. CEERI/MWT/RR–16/93, CEERI, Pilani, India, 1993.

11. **M.V. Kartikeyan**, "*Some Studies on the Modelling of Cavity and Helical structures for Microwave Tubes*," Ph. D. Thesis, Department of Electronics Engineering, Institute of Technology, Banaras Hindu University, Varanasi, India, August 1992.

12. Aruna Sharma, OS Lamba, VVP Singh, S Chander, NC Gupta, **M.V. Kartikeyan**, LM Joshi, and HN Bandopadhyay, "*Oxidation studies of Aluminum films on Copper and Molybdenum substrates*," Internal Report No. CEERI/ MWT/RR–39/91, CEERI, Pilani, India, November 1991.